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ABSTRACT

To help New York's State Department of Education assess public school districts' energy conservation activities, the results of an audit of school districts' energy conservation activities are presented. The audit shows that most school districts have made some efforts toward energy conservation and that the Department does provide some assistance to the school districts in this area. However, school districts have the opportunity to achieve significant savings by pursuing additional energy conservation improvements, and it is recommended that the Department of Education and the school districts work together to develop a comprehensive and coordinated approach toward conserving energy. This objective becomes more important in light of the Department's goal of ensuring that resources are used in ways that achieve maximum cost-effectiveness at the State, regional, and local levels. Currently, school districts do not take an organized structural approach toward identifying energy conservation needs, although some school districts have attempted to improve energy conservation by entering into energy performance contracts. Some school districts would like the Department to establish a process for sharing energy conserving experiences and approaches among school districts, especially because resources are limited. Appendix A presents nine recommendations, with agreements to these in Appendix B. Exhibit A lists 36 school districts included in the survey. Exhibit B is a summary of district energy costs per square foot. (RJM)

State of New York
Office of the State Comptroller
Division of Management Audit
Division of Municipal Affairs

Report 96-J-2

School District Energy Conservation Activities

December 1996

State of New York
Office of the State Comptroller

Division of Management Audit
Division of Municipal Affairs

Report 96-J-2

Mr. Carl T. Hayden
Chancellor of the Board of Regents
The University of the State of New York
State Education Building
Albany, New York 12234

Dear Chancellor Hayden:

The following is our report on School District Energy Conservation Activities.

We did this audit according to the State Comptroller's authority as set forth in Section 1, Article V, of the State Constitution, Section 8, Article 2 of the State Finance Law, and Article 3 of the General Municipal Law. We list major contributors to the report in Appendix A.

Office of the State Comptroller
Division of Management Audit

December 27, 1996

Executive Summary

State Education Department
School District Energy Conservation Activities

Scope of Audit

The State Education Department (Department) is the administrative agency of the State Board of Regents. The Department's mission is to oversee public elementary and secondary education programs throughout New York and promote the attainment of State policy goals for educational excellence, equity and cost effectiveness. Public school energy costs totaled $393.6 million (does not include equipment, operating or maintenance costs) statewide during the 1993-94 school year. In his Executive Budget the Governor proposed an overall staffing level of 3,125 positions for the Department in fiscal year 1996-97, a 4.4 percent reduction from the previous year. The Executive Budget also included $10 billion in school aid.

Our audit addressed the following question regarding school district energy conservation activities:

- Have the Department and the school districts done an effective job in controlling school district energy costs?

Audit Observations and Conclusions

We found that most school districts have made some efforts toward energy conservation and that the Department does provide some assistance to the school districts in this area. However, school districts have the opportunity to achieve significant savings by pursuing additional energy conservation improvements. To achieve such savings, the Department and the school districts need a comprehensive and coordinated approach to energy conservation, as detailed in our report.

The Legislature charges the Department with the general management and supervision of all public schools in the State, and the Department has recently established the goal of ensuring that resources are used in ways to achieve maximum cost-effectiveness at the State, regional and local levels. However, the Department does not have a strategic plan for statewide school district energy conservation. The Department does not have a formal program or system for monitoring school district energy conservation activities. The Department maintains data, such as school district energy costs and building square footage, that could be used to develop indicators of energy efficiency. However, this data is not used to assess district energy efficiency, and the Department does not ensure the data is complete and accurate. (See pp. 5-6)

We found that school districts do not take an organized structured approach to identifying energy conservation needs. In addition, the energy consciousness of school district officials varies significantly across the State. Controls often were not established to ensure energy costs were minimized. We contacted 36 school districts with energy costs totaling $157.3 million (does not include equipment, operating or maintenance costs) for the 1993-94 school year to determine their energy

conservation activities. We found 28 school districts do not have written energy conservation policies and procedures, and five school districts have not designated an individual responsible for overseeing energy related activities. In addition, 30 of 36 school districts do not have systems to monitor energy usage and efficiency among their buildings. (See p. 7)

Comprehensive energy audits are useful in identifying energy waste and in considering efficiency options. We found that 11 of 36 school districts indicated that they have not had an energy audit in the last five years. In addition, 1,370 (87 percent) of the 1,571 buildings greater than 2,000 square feet have not had an energy audit in the last five years. In many cases, the school districts have not implemented the recommendations contained in the energy audits. We also reviewed school district participation in the major energy conservation programs available to them during our audit period. While 84 percent of the 711 school districts participated in at least one of these programs, many districts' participation consisted of fewer than half the buildings within their district. (See pp. 8-11)

One of the ways some school districts have attempted to improve energy conservation is by entering into energy performance contracts. In this type of arrangement, a school district enters into a contract with a company for the provision of energy services in exchange for a portion of the energy savings or revenues. We noted several areas of concern relating to this type of contract. For example, school districts are not required to submit these contracts to a State oversight body for formal review and approval. As a result, we noted instances where school districts have entered into arrangements that may not be in their best interests or are inconsistent with the intent of energy performance contracts. The State's Energy Law should be amended to specify a formal review and approval process for performance contracts. (See pp. 11-15)

Some school district officials would like the Department to establish a process for sharing energy conserving experiences and approaches among school districts. Additionally, school districts have indicated that resources are limited, and that they are unable to fund energy improvements, even those with a quick payback. To remove this stumbling block, we propose the development of an educational energy revolving fund. This would enable the Department to loan funds to school districts for energy improvements. The districts can then use the energy savings to repay the fund. In addition, the former New York State Energy Office had outlined some measures that have little or no cost and can provide an immediate payback. These and other suggestions from the Energy Office can be found in Exhibit C of our report. Our report contains detailed recommendations for ways the Department can play a lead role in helping school districts to conserve energy as well as ways for the school districts to take the initiative in achieving this objective. (See pp. 15-19)

Comments of Department Officials

Department officials agreed with our conclusions and recommendations.

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Introduction

Background

The State Education Department (Department) is the administrative agency of the State Board of Regents. The Department's mission is to oversee public elementary and secondary education programs throughout New York and promote the attainment of State policy goals for educational excellence, equity and cost effectiveness. The Commissioner of Education is the chief administrative officer of the Department. In his Executive Budget the Governor proposed an overall staffing level of 3,125 positions for the Department in fiscal year 1996-97, a 4.4 percent reduction from the previous year. The Executive Budget also included $10 billion in school aid.

The Legislature charges the Department with general management and supervision of all public schools in the State. Each school district is responsible for operating economically and efficiently.

The Department compiles energy cost data on all school districts. Building square footage is compiled for all districts except the New York City School District. In the past, the energy cost data was provided to the Department on a schedule included in the School District Annual Financial Report. This schedule was discontinued for reports filed after June 30, 1994. The square footage data is provided to the Department as part of the yearly Fire Safety Report. The Department has not designated an individual or unit responsible for monitoring energy conservation activities at the 711 school districts. However, the Department's Bureau of Facilities Planning provides assistance to school officials, architects, engineers and others concerning school construction.

Statewide, public schools' energy costs totaled $393.6 million (does not include equipment, operating or maintenance costs) during the 1993-94 school year (see Exhibit B). Using data reported to the Department by the districts, and data obtained from the New York City Board of Education, which we adjusted based on additional information from the districts, we calculated school district energy cost per square foot. Using the latest available data, we found, among districts, energy cost per square foot varied significantly (see Exhibit B). For districts expending more than $100,000 for energy, the unaudited cost per square foot ranged from a low of $.21 per square foot of space to a high of $4.67 per square foot. The adjusted statewide average for school districts is

about $1. Most (462 or 65 percent) of the 711 districts' energy costs are in the range of $.75 to $1.25 per square foot.

Audit Scope, Objectives and Methodology

We audited school districts' practices for controlling energy costs and the Department's role in overseeing school district efforts for the period July 1, 1992 through May 31, 1996. The objectives of our economy and efficiency audit were to determine: whether there is a potential for school districts to significantly reduce energy costs; the reasons why school districts have not undertaken energy conservation improvements; what can be done at the State and local levels to encourage school districts to do more to reduce energy costs; and whether the energy costs and square footage data, reported by school districts, are accurate.

We did this audit through the joint efforts of the New York State Comptroller's Divisions of Management Audit and Municipal Affairs.

To accomplish our audit objectives, we reviewed relevant laws and regulations. We compiled and analyzed relevant Department data. We interviewed Department officials to determine their role related to school district energy conservation activities. We took steps to ensure the accuracy of district reported energy cost and square footage, for the school year ended June 30, 1994. Further, we contacted officials in 36 school districts (see Exhibit A), throughout the State, to assess their energy conservation activities. The 36 school districts included 25 with a high potential for energy efficiencies (i.e., high energy costs, high cost per square foot, etc.), six near the median ($.98) energy costs per square foot and five with a low cost per square foot. Consequently, we believe that the 36 school districts were representative of energy conservation efforts statewide. Our assessment was based on officials' written and verbal input, and on our analysis of other data they provided. We visited 16 of the 36 school districts to confirm the accuracy of testimonial evidence provided and to obtain further information on their energy conservation efforts.

We conducted our audit according to generally accepted government auditing standards. Such standards require that we plan and do our audit to adequately assess Department and district operations included within the audit scope. Further, these standards require that we understand the Department's internal control structure and compliance with those laws, rules and regulations that are relevant to the Department's operations included in our audit scope. An audit includes examining, on a test basis, evidence supporting transactions recorded in the accounting and operating records and applying such other auditing procedures as we

consider necessary in the circumstances. An audit also includes assessing the estimates, judgments, and decisions made by management. We believe that our audit provides a reasonable basis for our findings, conclusions and recommendations.

We use a risk-based approach when selecting activities to audit. This approach focuses our audit efforts on those operations identified through a preliminary survey as having the greatest probability for needing improvement. So, by design, we use our finite audit resources to identify where and how to make improvements. Thus, we devote little audit effort to reviewing operations that may be efficient or effective. As a result, we prepare our audit reports on an "exception basis." This report, therefore, highlights those areas needing improvement and does not focus on activities that may be functioning properly.

Response of Department Officials

We provided a draft report of the matters contained in this report to Department officials and to officials of the school districts we audited for their review and comment. Their comments have been considered in preparing this report and the Department's response is included in Appendix B. Department officials agreed with our conclusions and recommendations.

Within 90 days after final release of this report, as required by Section 170 of the Executive Law, the Commissioner of the State Education Department shall report to the Governor, the State Comptroller, and leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons therefor.

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Efforts to Control School District Energy Costs

The Department and the school districts should have a comprehensive and coordinated approach to use energy more efficiently. The Department should provide guidance and leadership in developing energy performance indicators. Districts could use these indicators to determine how effective they are and compare their performance to other districts. Energy cost per square foot is an example of an indicator that can be used to evaluate energy cost on a district basis and a building-by-building basis. With guidance and assistance from the Department, school districts should determine the reasons for high energy costs. Comprehensive energy audits are useful in identifying energy waste and in considering efficiency options. Districts should then weigh each available option for making energy improvements.

The Legislature charges the Department with the general management and supervision of all public schools in the State. The Department has recently established the goal of ensuring that resources are used in ways to achieve maximum cost-effectiveness at the State, regional and local levels. Obtaining and analyzing district performance indicators is an effective method for accomplishing this goal.

We found improvements are needed at the Department and district levels to conserve energy. We believe that most school districts could decrease their energy usage by conducting energy audits of their high energy cost buildings, implementing the energy audit recommendations and considering energy conservation when designing new buildings or rehabilitating existing ones. Sometimes energy reductions could be dramatic. Decreases in energy use could result in lower taxes or additional resources for educational programs.

We believe there is a potential for significant energy improvements and savings at many school districts. On January 2, 1990, then Governor Mario M. Cuomo signed Executive Order Number 132 establishing a State Facilities Energy Conservation Program to achieve an overall reduction in the State's energy consumption of 20 percent by the year 2000. If the school districts could achieve half of that goal, a 10 percent reduction in energy costs, taxpayers can save nearly $39 million annually (without considering the effects of inflation). A report titled, "Report on 1993 State Agency Energy Plans," issued by the former State Energy Office in 1993, indicated that the State had reduced its energy use by 6.57 percent from the base year of 1988-89. Based on the

State's progress it appears that a 10 percent reduction for school districts is achievable.

Department Efforts

We found that the Department does not have a strategic plan for statewide school district energy conservation. The Department does not have a formal program or system for monitoring school district energy conservation activities. Department management has recognized the need for improved oversight, but state that they have insufficient staff to do much more. Section 155.3(i) of the Commissioner's Rules and Regulations requires school districts to operate and maintain facilities to ensure efficient use of natural resources. However, the Department has not established goals for reducing energy costs at the districts.

In addition, the Department has not developed indicators of district energy efficiency, and its information system is not adequate. The Department maintains data, such as school district energy costs and building square footage, that could be used to develop such indicators. However, this data is not used to assess district energy efficiency, and the Department does not ensure the data is complete and accurate. Additional data that could be used to monitor district conservation efforts was not available. For example, the Department did not know the extent to which districts participated in available energy conservation programs.

We found significant variances between school year 1993-94 district energy cost and building square footage data provided to the Department by the districts, and the supporting documentation provided to us by the school districts. We used various audit techniques to confirm the accuracy of the data provided to the Department for the school year 1993-94. We obtained information from 454 school districts either by letter, by phone or during our site visits. For 27 percent (124) of the districts, the Department's data for energy costs was not accurate, and the average variance was $91,733. For 26 percent (119) of the districts the Department's building square footage data was not accurate and the average variance was 152,622 square feet. These variances resulted in the cost per square foot changing for 41.9 percent (190) of the districts. The average change was $0.45 per square foot.

We also noted several instances where the Department's database includes buildings with no indicated square footage. Further, we understand that beginning with school year 1994-95, the Department is no longer requiring districts to submit energy cost details as part of their Annual Financial Report.

District Efforts

We found that school districts did not take an organized structured approach to identifying energy conservation needs. In addition, the energy consciousness of school district officials varied significantly across the State. Controls often were not established to ensure energy costs are minimized. We contacted 36 school districts (see Exhibit A) with energy costs totaling $157.3 million (does not include equipment, operating or maintenance costs) for the 1993-94 school year, to determine their energy conservation activities and found the following:

- 28 of the 36 school districts did not have written energy conservation policies and procedures. Failure to establish uniform guidelines allows staff to act independently with no direction, uniformity, or responsibility.

- 5 of the 36 school districts have not identified an individual responsible for overseeing energy related activities. Failure to assign an energy officer eliminates accountability, prevents the monitoring of energy usage and cost, and reduces the districts' ability to identify and resolve problems timely.

- 30 of the 36 school districts do not have systems to monitor energy usage and efficiency among their buildings. An effective monitoring system would help management identify inefficient practices.

- The 36 school districts have a total of 1,816 buildings, of which 1,571 have more than 2,000 square feet. We found that generally districts could monitor costs by building since they had the necessary data. However, for some buildings separate data was not available as follows:

    - Four of the 696 buildings that use oil heat do not have separate oil usage data.

    - 57 of the 1,571 buildings do not have separate electric meters.

    - 18 of the 361 that use gas heat do not have separate gas meters.

Without individual records, districts cannot effectively monitor usage, which is what would be needed in order to identify buildings with potential problems.

- 11 of the 36 school districts indicated they have not had an energy audit in the last five years. Five of the 25 districts that indicated they had audits, stated they did not implement any of the recommendations and another 13 indicated they implemented some recommendations. Also, not every building within a district was reviewed. Managers in some districts that had energy audits, indicated they could not implement recommendations because their resources were limited. We found 1,370 (87 percent) of the 1,571 buildings greater than 2,000 square feet have not had an energy audit in the last five years.

- Electricity, was 65 percent (or $102.2 million) of total energy costs for the 36 school districts for the 1993-94 school year. Replacing current fluorescent fixtures with high efficiency fixtures saves at least one-third the energy cost. Furthermore, replacing existing incandescent lighting with the new fluorescent fixtures reduces energy usage costs by 75 percent. Most of the energy audits we reviewed show that the payback period for these lighting projects is two years or less. We found most districts we visited replaced the old inefficient lighting systems in some buildings. Districts should focus their efforts on reducing electricity use.

We toured at least one building at each of the 16 districts visited. We found conditions warranting improvements, as follows:

- An Energy Management System (EMS) intended to reduce costs by controlling heating and hot water thermostats, was often overridden. At one electrically heated building, with $500,000 in energy costs for school year 1993-94, we were informed by the custodians that the EMS is bypassed and remains on the day setting continuously. Individual classroom heating/cooling units are not tied to the EMS and remain on year round. While the heat was on, we observed several large classroom windows open.

- Our site visits and conversations with district personnel revealed that lights are often left on when rooms are not in use.

- Electric costs for July and August exceeded the costs for January and February, for an electrically heated building, even though only one-third of the building is air conditioned. District officials state that the air conditioning system is very old and inefficient.

- Some districts, to respond to what they believe is a temporary influx of students, either purchase or rent portable classrooms. Our review showed that one cause of high energy bills is the use of these portable classrooms. They may be poorly insulated, and all are heated by electricity. Another factor contributing to the high energy costs of these portable classrooms is the fact that usually they are not connected to the existing building and must be entered from the outside. Every time classes change, energy is lost through the open doors. Districts should be aware of the high energy cost before using this option. Districts that already have these classrooms should assess other less costly options to meet their space needs.

- A district we visited obtained an energy audit that projected a yearly savings of $110,000 for an initial cost of $143,000 to convert hot water heaters and classroom heaters at a high school and space heaters at the grounds shop from electric to gas. This equates to a payback period of 1.3 years. Although district officials questioned the estimated project cost, they did not have any analysis or reasonable explanation supporting what they believed project costs should be.

- We found situations which contributed to unnecessary energy costs such as drafty and broken windows, as well as inefficient heat distribution systems caused by broken thermostats, traps, and vacuum pumps.

- 11 of 16 school districts did not focus improvements on high energy cost buildings.

- 14 school districts had large (25 percent) cost per square foot variances among their buildings. Data was not available for the other two districts visited.

District Participation In Available Energy Conservation Programs

Major energy conservation programs, available to school districts during our audit period, included the following:

- The NYS Legislature made $48.6 million in grants available under the "Energy Aid for Public Schools" program. Applications for this program had to be filed by October 1, 1995 and the program was discontinued February 1, 1996.

- The New York Power Authority (NYPA) will install high efficiency lighting for public schools under its "High Efficiency Lighting Program" (HELP). To participate a signed Customer Installation Commitment must have been obtained by June 30, 1996.

- Various public utilities offered free energy audits to identify energy conservation opportunities. Some utilities also offered rebates for certain types of improvements. These programs were stopped as of January 1, 1996.

- From 1979 to 1994 the Institutional Conservation Program (ICP) provided matching Technical Assistance (TA) and Energy Conservation Measure (ECM) grants to eligible institutions, including school districts, for projects that make buildings more energy efficient. The TA provided funds for energy audits, and the ECM provided funds to implement the audit recommendations. To participate in these two program aspects, applications had to be received by February 15, 1994. Currently the ICP is being administered by the New York State Energy Research and Development Authority (NYSERDA), which provides matching funds for a variety of technical assistance services, including energy audits, through the Flexible Technical Assistance Program (FlexTech).

- The United States Environmental Protection Agency (EPA) has begun the Energy Star Buildings Program to help building owners and managers make profitable investments in energy-efficient equipment and operations. The EPA suggests program participants can expect to reduce total building energy consumption by 30 percent, on average.

- NYPA has begun other energy saving programs such as the Electro Technologies Program, the Industrial Energy - Efficiency Program, New Construction Program, and Energy Efficiency Rebates in New Construction and Renovation Projects. There are also an Electrical Vehicle Program, Wind Power, and a Renewable Energy Program.

- New York City has instituted the Cafeteria Lighting Program and the Operation and Maintenance Grant Program.

We obtained data from Department records, utility companies, NYSERDA and NYPA, to determine the extent to which the 711 school districts participated in the various programs. We noted the following:

Energy Program Participation

Program		# of Districts	% of Districts
Energy Aid		152	21%
NYPA HELP		138	19%
Utility Audit		307	43%
Utility Rebate		342	48%
NYSERDA TA Grant		318	45%
NYSERDA ECM Grant		194	27%
Flex-Tech Grant	*	23	3%

* Indicates programs currently available.

As the chart reflects, most districts did not take part in these energy conservation programs. Overall 594 (84 percent) of the 711 districts participated in at least one of these programs. However, we note that many districts' participation consisted of fewer than half the buildings within their district. Sometimes they included only one building in the program. In addition, many of the districts that participated in the utility audits did not implement many or in some cases, any of the recommendations. As a result, we believe there is a significant potential for school districts to save energy costs. Districts should determine what programs are currently available to identify opportunities to further conserve energy.

Energy Performance Contracts

In 1985 Article 9 of the New York State Energy Law was enacted to authorize municipalities, school districts, state agencies and public authorities to enter into energy performance contracts. The legislative finding which was attached to the law stated, "The legislature hereby finds that energy expenditures account for a large portion of the operating costs of public buildings and facilities and that the ability of the owners or operators of such public buildings or facilities to obtain

adequate funds to carry out energy conservation and other energy related measures are constrained. The legislature further finds that application of innovative practices used in the private sector to assemble the management resources, technical expertise and funds to install equipment and carry out measures to conserve or produce energy in exchange for a portion of the savings or revenues produced will reduce the energy costs for public buildings and facilities and will thus benefit the people of the state."

The legislation defines an energy performance contract as "an agreement for the provision of energy services, including but not limited to electricity, heating, ventilation, cooling, steam or hot water, in which a person agrees to install, maintain or manage energy systems or equipment to improve the energy efficiency of, or produce energy in connection with, a building or facility in exchange for a portion of the energy savings or revenue." Prior to 1994, energy performance contracts, in the opinion of the Office of the State Comptroller, were subject to competitive bidding requirements and the statutory requirements for installment purchase contracts.

In 1994 the Energy Law was amended to provide that:

- energy performance contracts could be awarded through a written request for proposals (RFP), in lieu of competitive bidding,
- in no event would an energy performance contract of a school district be construed as or deemed a lease or lease purchase of a building or facility, thereby expressly exempting school districts from certain voter approval requirements, and
- the requirements of General Municipal Law, Section 109-b, which generally prescribes procedures for lease purchases, would not apply to an energy performance contract for which written RFP's were issued.

During our audit we noted 36 districts that have entered into energy performance contracts and five districts that have received responses to requests for proposals that have not been acted upon. We reviewed two signed energy performance contracts and one reply to a request for proposals submitted by a contractor. Our review identified the following issues that should be resolved:

- The law states that the contractor will undertake to provide "energy services," such as the installation of energy systems to improve energy efficiency or produce energy, "in exchange for a portion of the energy savings or revenues." We interpret this to mean that the energy savings, or revenue derived from the energy produced, must be equal to or greater than the payment to the contractor. However, in the two energy performance contracts and one response to a district request for proposals we reviewed, State Building Aid, which we believe is not a revenue within the intent of Article 9, was factored into the cash flow calculation. The following example reflects how contractors included State Building Aid in their energy performance contract proposals.

A. Total Contract Price Including Maintenance and Monitoring Fees	$1,400,000
B. Yearly Payment to Contractor	$200,000
C. Yearly Energy Savings	$ 80,000
D. State Aid on Payment to Contractor (Assuming 65% Rate)	$130,000
E. Total Aid and Energy Savings To School District	$210,000
F. Annual Cash Flow to School District (C+D-B)	$ 10,000
G. Contract Life (A÷B)	7 years

We believe the example presented above does not qualify as an energy performance contract, since the yearly payments to the contractor ($200,000) are greater than the energy savings ($80,000). By presenting the savings in this manner, the contract period is shortened. Had the payment to the contractor been limited to the energy savings of $80,000, the contract life would be extended to 17.5 years ($1.4 million ÷ $80,000).

- In one energy performance contract we reviewed and from discussions with project managers in the Department's Facilities Planning Unit, districts are including non-energy related improvements in energy performance contracts. Since the law does not provide for a State level review and pre-approval process, no one

has the authority to disapprove the project on this basis. Some questionable improvements we identified included replacing roofs and telephone installation.

- In response to a district's request for proposal we reviewed, it appears that the savings estimate was based on a cursory energy review of the site. After the contract is signed, a thorough energy audit will be conducted and the energy savings (which in this case were guaranteed), contract price and project scope will be adjusted. As a result, the district is selecting the contractor without the benefit of precise data.

- Based on our conversations with Department personnel, it appears that in some instances, districts have requested proposals from vendors without identifying the scope of the work to be performed. The resulting proposals are often not comparable, since the scope of the work to be performed is different in each proposal.

- In the response to a district request for proposals, a contractor imposed a $30,000 yearly charge for maintenance of the equipment and monitoring of energy usage. A review of the Department's "Application for Examination and Approval of Final Plans and Specifications" form indicates that such maintenance and monitoring charges are not separately stated on the form. Based upon conversations with Department project managers, such costs would be disallowed for building aid if they were separately stated on the report. However, they believe that contractors often lump such costs into other categories of the report. Our review of brochures of other performance contractors indicated that this charge appears to be common throughout the industry and that it is advertised as qualifying for building aid.

- In the response to a district's request for proposals, a contractor proposed charging an interest rate of 5.68 percent for the 7-year term of the loan. Our research indicated that a district with a similar bond rating issued indebtedness at a rate of 4.9 percent in the same month as the contractor's proposal. In one performance contract, we reviewed, the contractor charged a rate of 6.5 percent for the 7-year term of the loan. Our research indicated that a district with the same bond rating issued indebtedness at the rate of 5.5 percent in the same month the contract was signed.

In order to properly address and resolve the above stated problems, the law should be amended to specify a Department review and pre-approval process for energy performance contracts. In addition, the school districts should be required to thoroughly investigate alternate financing sources and be able to document the fact that they are financing the improvement at the lowest cost to the taxpayers. In conjunction with their oversight responsibility, we believe that the Department should coordinate efforts to address these issues.

Opportunities to Improve Energy Efficiencies

Department officials said they provide energy conservation advice upon request (via the phone) from the school districts, participate in statewide school board conferences and publish articles in the Department's School Executive's Bulletin (10 issues per year). Sometimes these conferences and bulletins address energy issues. District officials told us that they would like the Department to do more. Specifically, district officials would like the Department to do the following:

- Provide statistics showing their energy cost per square foot compared with other similar districts;
- Provide additional building aid as an incentive for districts to implement energy savings measures;
- Provide updated room temperature guidelines for school buildings;
- Be a conduit of information among districts so that they could help each other cut energy costs;
- Establish an award program, such as recognition in a newsletter, as an incentive to implement energy savings measures;
- Provide a list of energy related services available (e.g., NYS Energy Research and Development Authority's performance contract assistance) along with contact persons and phone numbers; and
- Provide data on energy savings approaches that have had a positive impact on costs. For example, through our contacts with school districts, we found a number of instances of efficiencies, as follows:

- Nine of 36 districts indicated they realized savings in natural gas costs by buying brokered (i.e., purchasing gas through a wholesale supplier) gas rather than buying from available public utilities.

- Four school districts participate in consortiums through BOCES to purchase natural gas at a reduced rate.

- One district has and another is trying to combine gas lines for two schools, located next to each other, in order to secure a discounted brokered gas rate.

- A district estimated annual savings in excess of $200,000 since it installed an energy management system.

- A district included the responsibility to conserve energy in its custodian's contract. It was also part of the custodian's annual evaluation and had a direct impact on the custodian's salary.

Districts have indicated that resources are limited, and that they are unable to fund energy improvements, even those with a quick payback. As previously noted, there are few programs currently available to districts to fund energy improvements. To remove this stumbling block, we propose the development of an educational energy revolving fund. The Department could then loan funds to school districts for energy improvements. The districts can then use the energy savings to repay the fund. The concept of using revolving funds is not new to New York State. The Environmental Facilities Corporation utilizes a State revolving fund to provide loans at reduced rates to localities to fund water, sewage and solid waste projects.

Furthermore, the Governor's Office sent a letter on October 5, 1990 to each school district concerning, among other things, energy savings suggestions from the former New York State Energy Office. The suggestions outlined some measures that were of low or no cost and could provide an immediate payback. Other suggestions had payback periods of two years or less and some had longer payback periods. Many of those suggestions are still pertinent today. A summary of the Energy Office's suggestions can be found in Exhibit C.

Our review of district energy costs showed that even districts that have a low cost per square foot in comparison to the adjusted Statewide average of $1.00 have room for improvement and should explore energy

saving opportunities. Many of these districts have buildings with high costs. One district that was well below the Statewide average had buildings within the district that had costs that ranged from $.62 to $1.32 per square foot. One reason for this large variance is the fact that only 50 percent of the light fixtures have been upgraded to the more efficient models now on the market.

Recommended Practices For School Districts

1. Take an organized structured approach to identifying energy conservation needs. Each district should use the energy performance indicators and standards developed by the Department, to determine how effective they are at conserving resources and to compare their performance to other districts.

2. Adopt an energy conservation policy that communicates the importance of conserving energy and controlling energy costs. The policy should then be communicated to district employees and students. Procedures should be developed to ensure the established policy is implemented as intended.

3. Designate an individual responsible for overseeing energy related activities.

4. Establish systems to monitor their energy conservation activities, including where appropriate and cost efficient, energy management systems. Procedures should be established to ensure systems are operating as intended.

5. Develop energy performance indicators to identify buildings with the potential for improvement. For example, determine the energy cost per square foot and investigate significant variances among buildings to identify potential inefficiencies and opportunities for cutting costs. Assess the options to control costs and make needed improvements. Incorporate energy improvement needs in the district's long term capital plan.

6. To the extent practical, maintain separate energy usage data for each building.

7. Focus improvements on high energy cost buildings, paying particular attention to reducing electricity use. Conduct energy audits to identify specific improvements and potential savings.

8. Investigate and pursue opportunities to limit the cost of energy audits by using available energy conservation programs.

9. Review the former New York State Energy Office's 1990 Energy Conservation Suggestions (Exhibit C) and determine the extent to which the suggestions can be incorporated into efforts to conserve energy.

Recommendations

1. Develop a strategic plan for conserving energy at school districts and BOCES throughout New York State. To the extent that resources are available provide energy conservation technical assistance and monitor school district energy efforts. Distribute, and seek compliance with, the energy conservation practices we recommend for school districts, as noted above. Incorporate in the plan goals for reducing energy costs within the next fiscal year and beyond.

2. Provide guidance and leadership in developing energy performance indicators and standards, which the districts could use to determine how effective they are and to compare their performance to other districts.

3. Consider reinstituting the requirement that school districts provide annual energy costs by fuel source. Develop a school district energy cost per square foot performance measure using available energy costs and building square footage data. Implement controls to ensure the data is accurate and complete.

4. Propose legislation establishing a review and approval process for energy performance contracts. Resolve the other energy performance contract issues we raised in this report.

5. Establish and coordinate a process for sharing energy conserving experiences and approaches among school districts.

6. Provide districts with updated room temperature guidelines for school buildings.

7. Consider instituting an award program and developing other incentives to encourage districts to implement energy saving measures.

8. Develop and distribute a list of energy related services available (e.g., NYS Energy Research and Development Authority's performance contract assistance) along with contact persons and phone numbers.

9. Propose legislation to establish an educational energy revolving fund.

SUMMARY OF THE 36 SCHOOL DISTRICTS INCLUDED IN OUR SURVEY		
DISTRICT		COUNTY
ALBANY CITY SD		Albany
AVERILL PARK CSD	*	Rensselaer
BELLMORE-MERRICK CENTRAL HS DISTRICT		Nassau
BUFFALO CITY SD		Erie
CENTRAL ISLIP UFSD		Suffolk
CENTRAL SQUARE CSD		Oswego
EAST AURORA UFSD		Erie
EAST GREENBUSH CSD	*	Rensselaer
EAST SYRACUSE-MINOA CSD	*	Onondaga
GREECE CSD		Monroe
HEMPSTEAD UFSD	*	Nassau
HENDRICK HUDSON CSD		Westchester
KENMORE UFSD	*	Erie
LEVITTOWN UFSD	*	Nassau
LEWISTON-PORTER CSD	*	Niagara
LOCKPORT CITY SD		Niagara
MIDDLETOWN CITY SD		Orange
NEW YORK CITY BOARD OF EDUCATION	*	New York City
NIAGARA FALLS CITY SD		Niagara
NORTH COLONIE CSD	*	Albany
NORTH SYRACUSE CSD		Onondaga
OSWEGO CITY SD		Oswego
PELHAM UFSD		Westchester
PITTSFORD CSD		Monroe
ROME CITY SD	*	Oneida
SARATOGA SPRINGS CITY SD	*	Saratoga
SCHENECTADY CITY SD		Schenectady
SHENENDEHOWA CSD	*	Saratoga
SHOREHAM-WADING RIVER CSD		Suffolk
SYOSSET CSD		Nassau
SYRACUSE CITY SD		Onondaga
TROY CITY SD	*	Rensselaer
UTICA CITY SD	*	Oneida
WATERTOWN CITY SD		Jefferson
WILLIAM FLOYD UFSD	*	Suffolk
WILLIAMSVILLE CSD	*	Erie

* Indicates districts included in our site visits.

Exhibit A

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)				
School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
10100	ALBANY CITY SD	1,969,381	$2,153,044	$1.09
10201	BERNE-KNOX-WESTERLO CSD	136,006	$128,988	$0.95
10306	BETHLEHEM CSD	616,834	$667,794	$1.08
10402	RAVENA-COEYMANS-SELKIRK CSD	338,456	$342,407	$1.01
10500	COHOES CITY SD	327,638	$299,896	$0.92
10601	SOUTH COLONIE CSD	759,064	$1,002,024	$1.32
10605	NORTH COLONIE CSD	859,569	$921,727	$1.07
10615	MENANDS UFSD	46,194	$42,577	$0.92
10622	MAPLEWOOD COMN SD	33,144	$33,078	$1.00
10701	GREEN ISLAND UFSD	37,155	$29,574	$0.80
10802	GUILDERLAND CSD	829,290	$952,423	$1.15
11003	VOORHEESVILLE CSD	170,942	$262,880	$1.54
11200	WATERVLIET CITY SD	217,709	$431,343	$1.98
	ALBANY COUNTY	6,341,382	$7,267,755	$1.15
20101	ALFRED-ALMOND CSD	129,218	$117,576	$0.91
20501	BELMONT CSD	96,091	$88,386	$0.92
20601	ANDOVER CSD	98,748	$70,000	$0.71
20701	ANGELICA CSD	47,940	$38,446	$0.80
20801	BELFAST CSD	81,967	$76,015	$0.93
21001	BOLIVAR-RICHBURG	202,355	$154,872	$0.77
21102	CANASERAGA CSD	79,738	$73,094	$0.92
21601	FRIENDSHIP CSD	101,951	$58,705	$0.58
22001	FILLMORE CSD	121,840	$100,502	$0.82
22101	WHITESVILLE CSD	41,877	$36,745	$0.88
22302	CUBA-RUSHFORD CSD	180,556	$186,363	$1.03
22401	SCIO CSD	98,894	$79,862	$0.81
22601	WELLSVILLE CSD	633,951	$143,844	$0.23

Exhibit B

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
	ALLEGANY COUNTY	1,915,126	$1,224,410	$0.64
30101	CHENANGO FORKS CSD	419,960	$401,544	$0.96
30200	BINGHAMTON CITY SD	1,226,722	$1,350,138	$1.10
30501	HARPURSVILLE CSD	164,422	$116,838	$0.71
30601	SUSQUEHANNA VALLEY CSD	382,895	$412,357	$1.08
30701	CHENANGO VALLEY CSD	327,010	$481,600	$1.47
31101	MAINE-ENDWELL CSD	382,295	$452,148	$1.18
31301	DEPOSIT CSD	197,782	$199,284	$1.01
31401	WHITNEY POINT CSD	255,785	$281,445	$1.10
31501	UNION-ENDICOTT CSD	823,511	$946,988	$1.15
31502	JOHNSON CITY CSD	480,632	$507,400	$1.06
31601	VESTAL CSD	828,396	$840,185	$1.01
31701	WINDSOR CSD	481,198	$376,344	$0.78
	BROOME COUNTY	5,970,608	$6,366,271	$1.07
40101	ALLEGANY CSD	280,606	$222,578	$0.79
40204	WEST VALLEY CSD	89,285	$76,938	$0.86
40301	LIMESTONE UFSD	44,052	$47,570	$1.08
40901	ELLICOTTVILLE CSD	60,453	$87,844	$1.45
41101	FRANKLINVILLE CSD	143,369	$181,533	$1.27
41401	HINSDALE CSD	108,862	$60,394	$0.55
41801	LITTLE VALLEY CSD	61,044	$59,101	$0.97
42301	CATTARAUGUS CSD	166,040	$151,387	$0.91
42400	OLEAN CITY SD	705,010	$468,474	$0.66
42801	GOWANDA CSD	306,144	$339,204	$1.11
42901	PORTVILLE CSD	173,722	$211,289	$1.22
43001	RANDOLPH CSD	178,307	$156,549	$0.88
43011	RANDOLPH ACAD UFSD	57,300	$36,724	$0.64
43200	SALAMANCA CITY SD	382,305	$193,441	$0.51
43501	YORKSHIRE-PIONEER CSD	566,123	$245,894	$0.43

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)				
School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
	CATTARAUGUS COUNTY	3,322,622	$2,538,920	$0.76
50100	AUBURN CITY SD	903,772	$995,438	$1.10
50301	WEEDSPORT CSD	198,190	$191,930	$0.97
50401	CATO-MERIDIAN CSD	286,710	$175,458	$0.61
50701	SOUTHERN CAYUGA CSD	208,389	$188,563	$0.90
51101	PORT BYRON CSD	230,780	$226,605	$0.98
51301	MORAVIA CSD	214,928	$161,789	$0.75
51901	UNION SPRINGS CSD	216,132	$141,610	$0.66
	CAYUGA COUNTY	2,258,901	$2,081,393	$0.92
60201	SOUTHWESTERN CSD (JAMESTOWN)	339,163	$213,004	$0.63
60301	FREWSBURG CSD	145,292	$188,937	$1.30
60401	CASSADAGA VALLEY CSD	241,113	$191,815	$0.80
60501	MAYVILLE CSD	121,038	$25,046	$0.21
60502	CHAUTAUQUA CSD	125,408	$116,259	$0.93
60601	PINE VALLEY CSD (SOUTH DAYTON)	158,677	$116,250	$0.73
60701	CLYMER CSD	110,885	$108,107	$0.97
60800	DUNKIRK CITY SD	412,406	$439,242	$1.07
61001	BEMUS POINT CSD	172,915	$155,943	$0.90
61101	FALCONER CSD	217,745	$139,628	$0.64
61501	SILVER CREEK CSD	198,924	$216,501	$1.09
61503	FORESTVILLE CSD	195,508	$123,103	$0.63
61601	PANAMA CSD	108,335	$136,720	$1.26
61700	JAMESTOWN CITY SD	1,364,667	$543,633	$0.40
62201	FREDONIA CSD	309,138	$371,135	$1.20
62301	BROCTON CSD	125,487	$106,061	$0.85
62401	RIPLEY CSD	99,419	$134,396	$1.35
62601	SHERMAN CSD	92,622	$71,129	$0.77
62901	WESTFIELD CSD	143,601	$75,829	$0.53
	CHAUTAUQUA COUNTY	4,682,343	$3,472,738	$0.74

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
70600	ELMIRA CITY SD	1,354,469	$1,169,791	$0.86
70901	HORSEHEADS CSD	778,749	$783,579	$1.01
70902	ELMIRA HTS CSD	197,225	$185,747	$0.94
	CHEMUNG COUNTY	2,330,443	$2,139,117	$0.92
80101	AFTON CSD	177,422	$133,280	$0.75
80201	BAINBRIDGE-GUILFORD CSD	193,818	$132,033	$0.68
80601	GREENE CSD	298,300	$154,242	$0.52
81001	NEW BERLIN CSD	92,590	$117,655	$1.27
81002	SOUTH NEW BERLIN CSD	51,044	$51,218	$1.00
81200	NORWICH CITY SD	426,608	$429,541	$1.01
81401	GEORGETOWN-SO OTSELIC CSD	114,462	$80,051	$0.70
81501	OXFORD ACAD & CSD	192,617	$157,376	$0.82
82001	SHERBURNE-EARLVILLE CSD	365,618	$154,748	$0.42
	CHENANGO COUNTY	1,912,479	$1,410,144	$0.74
90201	AUSABLE VALLEY CSD	252,234	$431,647	$1.71
90301	BEEKMANTOWN CSD	308,503	$285,867	$0.93
90501	NORTHEASTERN CLINTON CSD	304,511	$407,111	$1.34
90601	CHAZY UFSD	162,883	$86,632	$0.53
90901	NORTHERN ADIRONDACK CSD	237,280	$355,282	$1.50
91101	PERU CSD	350,146	$289,368	$0.83
91200	PLATTSBURGH CITY SD	382,774	$225,301	$0.59
91402	SARANAC CSD	215,233	$216,646	$1.01
	CLINTON COUNTY	2,213,564	$2,297,854	$1.04
100308	BERKSHIRE UFSD	88,500	$166,034	$1.88
100501	COPAKE-TACONIC HILLS CSD	179,398	$200,219	$1.12
100902	GERMANTOWN CSD	98,700	$88,829	$0.90
101001	CHATHAM CSD	262,090	$312,914	$1.19

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
101300	HUDSON CITY SD	365,576	$435,977	$1.19
101401	KINDERHOOK CSD	430,072	$477,170	$1.11
101601	NEW LEBANON CSD	131,124	$161,355	$1.23
	COLUMBIA COUNTY	1,555,460	$1,842,498	$1.18
110101	CINCINNATUS CSD	144,000	$120,926	$0.84
110200	CORTLAND CITY SD	525,629	$603,201	$1.15
110304	MCGRAW CSD	143,613	$130,545	$0.91
110701	HOMER CSD	293,492	$334,776	$1.14
110901	MARATHON CSD	260,410	$102,406	$0.39
	CORTLAND COUNTY	1,367,144	$1,291,854	$0.94
120102	ANDES CSD	102,212	$30,158	$0.30
120301	DOWNSVILLE CSD	98,300	$64,880	$0.66
120401	CHARLOTTE VALLEY CSD	69,538	$53,293	$0.77
120501	DELHI CSD	201,802	$187,242	$0.93
120701	FRANKLIN CSD	78,119	$47,104	$0.60
120906	HANCOCK CSD	170,536	$154,309	$0.90
121401	MARGARETVILLE CSD	79,111	$66,899	$0.85
121502	ROXBURY CSD	57,286	$52,797	$0.92
121601	SIDNEY CSD	243,950	$204,529	$0.84
121701	STAMFORD CSD	95,428	$95,402	$1.00
121702	SOUTH KORTRIGHT CSD	90,277	$87,845	$0.97
121901	WALTON CSD	297,456	$194,183	$0.65
	DELAWARE COUNTY	1,584,015	$1,238,641	$0.78
130200	BEACON CITY SD	414,777	$391,725	$0.94
130502	DOVER UFSD	193,702	$183,016	$0.94
130801	HYDE PARK CSD	600,326	$423,755	$0.71
131101	NORTHEAST CSD	143,932	$205,390	$1.43
131201	PAWLING CSD	230,718	$139,267	$0.60

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
131301	PINE PLAINS CSD	258,233	$130,810	$0.51
131500	POUGHKEEPSIE CITY SD	670,996	$530,171	$0.79
131601	ARLINGTON CSD	744,326	$628,836	$0.84
131602	SPACKENKILL UFSD	339,328	$233,930	$0.69
131701	RED HOOK CSD	304,270	$185,528	$0.61
131801	RHINEBECK CSD	160,889	$131,361	$0.82
131802	RHINECLIFF UFSD	32,001	$70,751	$2.21
132101	WAPPINGERS CSD	1,323,762	$995,320	$0.75
132201	MILLBROOK CSD	200,767	$131,330	$0.65
	DUTCHESS COUNTY	5,618,027	$4,381,190	$0.78
140101	ALDEN CSD	291,723	$274,785	$0.94
140201	AMHERST CSD	555,261	$617,712	$1.11
140203	WILLIAMSVILLE CSD	1,652,613	$2,204,962	$1.33
140207	SWEET HOME CSD	694,385	$807,334	$1.16
140301	EAST AURORA UFSD	460,377	$491,958	$1.07
140600	BUFFALO CITY SD	7,997,316	$7,852,390	$0.98
140701	CHEEKTOWAGA CSD	363,822	$496,873	$1.37
140702	CHEEKTOWAGA-MARYVALE UFSD	728,483	$638,096	$0.88
140703	CLEVELAND HILL UFSD	269,375	$195,684	$0.73
140707	DEPEW UFSD	463,721	$467,855	$1.01
140709	CHEEKTOWAGA-SLOAN UFSD	252,550	$238,781	$0.95
140801	CLARENCE CSD	605,250	$538,204	$0.89
141101	SPRINGVILLE-GRIFFITH INST CSD	396,591	$211,120	$0.53
141201	EDEN CSD	386,704	$418,446	$1.08
141301	IROQUOIS CSD	480,310	$443,971	$0.92
141401	EVANS-BRANT CSD (LAKE SHORE)	557,271	$741,338	$1.33
141501	GRAND ISLAND CSD	581,028	$457,217	$0.79
141601	HAMBURG CSD	711,253	$611,073	$0.86
141603	HOPEVALE UFSD AT HAMBURG	48,580	$58,178	$1.20
141604	FRONTIER CSD	748,251	$783,275	$1.05

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
141701	HOLLAND CSD	240,270	$198,182	$0.82
141800	LACKAWANNA CITY SD	491,157	$366,050	$0.75
141901	LANCASTER CSD	918,982	$716,419	$0.78
142101	AKRON CSD	215,614	$114,093	$0.53
142201	NORTH COLLINS CSD	126,151	$150,153	$1.19
142301	ORCHARD PARK CSD	791,506	$998,790	$1.26
142500	TONAWANDA CITY SD	449,996	$509,894	$1.13
142601	KENMORE UFSD	1,702,240	$1,946,449	$1.14
142801	WEST SENECA CSD	1,127,298	$1,215,977	$1.08
	ERIE COUNTY	24,308,078	$24,765,259	$1.02
150203	CROWN POINT CSD	46,332	$66,180	$1.43
150301	ELIZABETHTOWN-LEWIS CSD	81,410	$58,420	$0.72
150601	KEENE CSD	68,276	$35,144	$0.51
150801	MINERVA CSD	55,593	$53,310	$0.96
150901	MORIAH CSD	165,526	$146,942	$0.89
151001	NEWCOMB CSD	62,997	$36,935	$0.59
151102	LAKE PLACID CSD	276,565	$75,507	$0.27
151401	SCHROON LAKE CSD	54,584	$60,178	$1.10
151501	TICONDEROGA CSD	211,913	$250,669	$1.18
151601	WESTPORT CSD	54,831	$41,426	$0.76
151701	WILLSBORO CSD	52,580	$52,656	$1.00
	ESSEX COUNTY	1,130,607	$877,367	$0.78
160101	TUPPER LAKE CSD	151,871	$79,845	$0.53
160801	CHATEAUGAY CSD	269,026	$88,997	$0.33
161201	SALMON RIVER CSD	355,919	$614,091	$1.73
161401	SARANAC LAKE CSD	216,192	$312,951	$1.45
161501	MALONE CSD	484,670	$460,408	$0.95
161601	BRUSHTON-MOIRA CSD	175,780	$159,599	$0.91

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
161801	ST REGIS FALLS CSD	80,784	$95,210	$1.18
	FRANKLIN COUNTY	1,734,242	$1,811,101	$1.04
170301	WHEELERVILLE UFSD	39,800	$70,578	$1.77
170500	GLOVERSVILLE CITY SD	569,862	$605,672	$1.06
170600	JOHNSTOWN CITY SD	384,453	$433,025	$1.13
170801	MAYFIELD CSD	151,711	$141,083	$0.93
170901	NORTHVILLE CSD	111,206	$86,047	$0.77
171001	OPPENHEIM-EPHRATAH CSD	28,100	$72,577	$2.58
171102	BROADALBIN-PERTH CSD	219,218	$243,431	$1.11
	FULTON COUNTY	1,504,350	$1,652,413	$1.10
180202	ALEXANDER CSD	184,680	$167,110	$0.90
180300	BATAVIA CITY SD	454,698	$454,187	$1.00
180701	BYRON-BERGEN CSD	227,101	$335,703	$1.48
180901	ELBA CSD	59,985	$109,490	$1.83
181001	LE ROY CSD	171,928	$121,907	$0.71
181101	OAKFIELD-ALABAMA CSD	215,631	$229,036	$1.06
181201	PAVILION CSD	114,078	$127,623	$1.12
181302	PEMBROKE CSD	290,600	$298,187	$1.03
	GENESEE COUNTY	1,718,701	$1,843,243	$1.07
190301	CAIRO-DURHAM CSD	190,428	$132,506	$0.70
190401	CATSKILL CSD	218,878	$161,974	$0.74
190501	COXSACKIE-ATHENS CSD	285,796	$213,182	$0.75
190701	GREENVILLE CSD	172,395	$131,179	$0.76
190901	HUNTER-TANNERSVILLE CSD	88,563	$66,054	$0.75
191401	WINDHAM-ASHLAND-JEWETT CSD	67,729	$66,565	$0.98
	GREENE COUNTY	1,023,789	$771,460	$0.75
200101	PISECO COMN SD	9,810	$14,237	$1.45

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
200401	INDIAN LAKE CSD	75,411	$57,727	$0.77
200501	INLET COMN SD	3,300	$6,126	$1.86
200601	LAKE PLEASANT CSD	28,288	$19,724	$0.70
200701	LONG LAKE CSD	53,530	$40,317	$0.75
200702	RAQUETTE LAKE UFSD	6,300	$9,732	$1.54
200901	WELLS CSD	40,230	$51,952	$1.29
	HAMILTON COUNTY	216,869	$199,815	$0.92
210302	WEST CANADA VALLEY CSD	156,776	$147,787	$0.94
210402	FRANKFORT-SCHUYLER CSD	190,435	$165,262	$0.87
210501	ILION CSD	254,422	$162,848	$0.64
210502	MOHAWK CSD	152,506	$93,452	$0.61
210601	HERKIMER CSD	252,000	$199,138	$0.79
210800	LITTLE FALLS CITY SD	236,931	$274,363	$1.16
211003	DOLGEVILLE CSD	213,120	$194,622	$0.91
211103	POLAND CSD	239,740	$105,636	$0.44
211701	VAN HORNESVILLE-OWEN D. YOUNG CSD	59,633	$47,540	$0.80
211901	TOWN OF WEBB UFSD	76,794	$85,956	$1.12
212001	BRIDGEWATER-WEST WINFIELD CSD	262,054	$289,801	$1.11
	HERKIMER COUNTY	2,094,411	$1,766,405	$0.84
220101	SOUTH JEFFERSON CSD	585,865	$421,654	$0.72
220202	ALEXANDRIA CSD	111,552	$95,015	$0.85
220301	INDIAN RIVER CSD	492,159	$636,776	$1.29
220401	GENERAL BROWN CSD	269,082	$255,826	$0.95
220701	THOUSAND ISLANDS CSD	252,277	$260,694	$1.03
220909	BELLEVILLE HENDERSON CSD	188,774	$103,392	$0.55
221001	SACKETS HARBOR CSD	84,237	$91,112	$1.08
221301	LYME CSD	52,274	$50,606	$0.97
221401	LA FARGEVILLE CSD	112,618	$128,315	$1.14

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
222000	WATERTOWN CITY SD	826,472	$795,516	$0.96
222201	CARTHAGE CSD	440,878	$648,364	$1.47
	JEFFERSON COUNTY	3,416,188	$3,487,270	$1.02
230201	COPENHAGEN CSD	77,661	$61,246	$0.79
230301	HARRISVILLE CSD	107,765	$131,311	$1.22
230901	LOWVILLE ACAD & CSD	212,926	$198,401	$0.93
231101	SOUTH LEWIS CSD	235,199	$232,732	$0.99
231301	BEAVER RIVER CSD	185,717	$179,550	$0.97
	LEWIS COUNTY	819,268	$803,240	$0.98
240101	AVON CSD	213,966	$266,384	$1.25
240201	CALEDONIA-MUMFORD CSD	145,504	$150,116	$1.03
240401	GENESEO CSD	255,290	$331,879	$1.30
240801	LIVONIA CSD	348,356	$364,038	$1.05
240901	MT MORRIS CSD	129,982	$124,946	$0.96
241001	DANSVILLE CSD	264,642	$268,598	$1.01
241101	DALTON-NUNDA CSD (KESHEQUA)	190,200	$215,179	$1.13
241701	YORK CSD	176,016	$200,113	$1.14
	LIVINGSTON COUNTY	1,723,956	$1,921,253	$1.11
250109	BROOKFIELD CSD	66,968	$38,922	$0.58
250201	CAZENOVIA CSD	244,846	$259,568	$1.06
250301	DE RUYTER CSD	124,565	$64,326	$0.52
250401	MORRISVILLE-EATON CSD	192,796	$196,278	$1.02
250701	HAMILTON CSD	146,002	$75,284	$0.52
250901	CANASTOTA CSD	287,017	$287,545	$1.00
251101	MADISON CSD	64,868	$66,994	$1.03
251400	ONEIDA CITY CSD	394,378	$350,979	$0.89
251501	STOCKBRIDGE VALLEY CSD	82,094	$113,689	$1.38
251601	CHITTENANGO CSD	424,715	$399,662	$0.94

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FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
	MADISON COUNTY	2,028,249	$1,853,247	$0.91
260101	BRIGHTON CSD	668,091	$760,072	$1.14
260401	GATES-CHILI CSD	701,292	$661,623	$0.94
260501	GREECE CSD	1,909,854	$1,831,063	$0.96
260801	EAST IRONDEQUOIT CSD	475,564	$501,375	$1.05
260803	WEST IRONDEQUOIT CSD	586,279	$580,571	$0.99
260901	HONEOYE FALLS-LIMA CSD	385,257	$438,982	$1.14
261001	SPENCERPORT CSD	462,457	$299,541	$0.65
261101	HILTON CSD	656,352	$689,756	$1.05
261201	PENFIELD CSD	728,748	$770,471	$1.06
261301	FAIRPORT CSD	957,124	$491,980	$0.51
261313	EAST ROCHESTER UFSD	276,810	$350,880	$1.27
261401	PITTSFORD CSD	948,385	$865,868	$0.91
261501	CHURCHVILLE-CHILI CSD	513,310	$468,917	$0.91
261600	ROCHESTER CITY SD	5,781,821	$6,793,920	$1.18
261701	RUSH-HENRIETTA CSD	1,044,581	$861,995	$0.83
261801	BROCKPORT CSD	703,057	$702,109	$1.00
261901	WEBSTER CSD	1,202,209	$1,084,829	$0.90
262001	WHEATLAND-CHILI CSD	453,719	$178,612	$0.39
	MONROE COUNTY	18,454,910	$18,332,564	$0.99
270100	AMSTERDAM CITY SD	807,503	$971,516	$1.20
270301	CANAJOHARIE CSD	169,521	$253,141	$1.49
270601	FONDA-FULTONVILLE CSD	247,304	$375,865	$1.52
270701	FORT PLAIN CSD	173,511	$206,183	$1.19
271102	ST JOHNSVILLE CSD	115,154	$94,425	$0.82
	MONTGOMERY COUNTY	1,512,993	$1,901,130	$1.26
280100	GLEN COVE CITY SD	508,737	$381,954	$0.75
280201	HEMPSTEAD UFSD	727,387	$1,384,315	$1.90

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FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
280202	UNIONDALE UFSD	681,648	$802,630	$1.18
280203	EAST MEADOW UFSD	1,301,300	$1,084,036	$0.83
280204	NORTH BELLMORE UFSD	300,536	$254,916	$0.85
280205	LEVITTOWN UFSD	1,218,071	$928,887	$0.76
280206	SEAFORD UFSD	654,030	$345,293	$0.53
280207	BELLMORE UFSD	220,818	$168,776	$0.76
280208	ROOSEVELT UFSD	386,066	$439,795	$1.14
280209	FREEPORT UFSD	990,449	$461,137	$0.47
280210	BALDWIN UFSD	741,628	$584,126	$0.79
280211	OCEANSIDE UFSD	831,639	$960,042	$1.15
280212	MALVERNE UFSD	271,978	$268,710	$0.99
280213	VALLEY STREAM 13 UFSD	272,509	$189,545	$0.70
280214	HEWLETT-WOODMERE UFSD	573,379	$656,229	$1.14
280215	LAWRENCE UFSD	1,198,398	$748,553	$0.62
280216	ELMONT UFSD	381,328	$571,950	$1.50
280217	FRANKLIN SQUARE UFSD	327,149	$166,799	$0.51
280218	GARDEN CITY UFSD	633,479	$493,849	$0.78
280219	EAST ROCKAWAY UFSD	142,690	$170,376	$1.19
280220	LYNBROOK UFSD	477,327	$362,532	$0.76
280221	ROCKVILLE CENTRE UFSD	552,468	$331,539	$0.60
280222	FLORAL PARK-BELLROSE UFSD	209,740	$169,946	$0.81
280223	WANTAGH UFSD	580,988	$459,519	$0.79
280224	VALLEY STREAM 24 UFSD	101,960	$100,307	$0.98
280225	MERRICK UFSD	258,561	$203,976	$0.79
280226	ISLAND TREES UFSD	538,113	$319,261	$0.59
280227	WEST HEMPSTEAD UFSD	403,906	$205,962	$0.51
280229	NORTH MERRICK UFSD	184,411	$124,757	$0.68
280230	VALLEY STREAM 30 UFSD	353,054	$120,212	$0.34
280231	ISLAND PARK UFSD	159,405	$117,090	$0.73
280251	VALLEY STREAM CENTRAL HS DISTRICT	668,380	$535,690	$0.80

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FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
280252	SEWANHAKA CENTRAL HS DISTRICT	1,064,612	$750,164	$0.70
280253	BELLMORE-MERRICK	1,607,448	$937,467	$0.58
280300	LONG BEACH CITY SD	705,560	$920,054	$1.30
280401	WESTBURY UFSD	503,350	$590,055	$1.17
280402	EAST WILLISTON UFSD	225,983	$272,488	$1.21
280403	ROSLYN UFSD	556,345	$535,107	$0.96
280404	PORT WASHINGTON UFSD	808,056	$675,487	$0.84
280405	NEW HYDE PARK-GARDEN CITY PARK UFSD	170,085	$142,691	$0.84
280406	MANHASSET UFSD	421,685	$616,410	$1.46
280407	GREAT NECK UFSD	1,340,051	$1,679,088	$1.25
280409	HERRICKS UFSD	632,487	$552,401	$0.87
280410	MINEOLA UFSD	450,847	$448,005	$0.99
280411	CARLE PLACE UFSD	274,168	$299,709	$1.09
280501	NORTH SHORE CSD	488,241	$473,269	$0.97
280502	SYOSSET CSD	890,064	$1,136,262	$1.28
280503	LOCUST VALLEY CSD	388,486	$412,755	$1.06
280504	PLAINVIEW-OLD BETHPAGE CSD	972,510	$864,269	$0.89
280506	OYSTER BAY-EAST NORWICH CSD	220,462	$326,881	$1.48
280515	JERICHO UFSD	454,812	$480,707	$1.06
280517	HICKSVILLE UFSD	1,130,868	$657,372	$0.58
280518	PLAINEDGE UFSD	527,576	$550,698	$1.04
280521	BETHPAGE UFSD	684,300	$478,186	$0.70
280522	FARMINGDALE UFSD	1,437,545	$1,109,515	$0.77
280523	MASSAPEQUA UFSD	1,334,593	$1,297,219	$0.97
	NASSAU COUNTY	34,141,666	$30,318,968	$0.89
300000	NEW YORK CITY BOARD OF EDUCATION	104,398,000	$105,345,839	$1.01
400301	LEWISTON-PORTER CSD	476,880	$637,945	$1.34
400400	LOCKPORT CITY SD	798,731	$795,368	$1.00

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FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
400601	NEWFANE CSD	293,309	$468,387	$1.60
400701	NIAGARA-WHEATFIELD CSD	1,174,465	$550,765	$0.47
400800	NIAGARA FALLS CITY SD	1,708,940	$1,887,894	$1.10
400900	NORTH TONAWANDA CITY SD	829,140	$1,003,930	$1.21
401001	STARPOINT CSD	304,640	$364,946	$1.20
401201	ROYALTON-HARTLAND CSD	260,551	$371,422	$1.43
401301	BARKER CSD	368,572	$211,540	$0.57
401501	WILSON CSD	235,857	$256,666	$1.09
	NIAGARA COUNTY	6,451,085	$6,548,863	$1.02
410401	ADIRONDACK CSD	389,276	$160,170	$0.41
410601	CAMDEN CSD	401,917	$469,606	$1.17
411101	CLINTON CSD	222,510	$218,582	$0.98
411501	NEW HARTFORD CSD	555,858	$495,418	$0.89
411504	NY MILLS UFSD	110,277	$114,160	$1.04
411603	SAUQUOIT VALLEY CSD	271,264	$302,314	$1.11
411701	REMSEN CSD	80,379	$80,379	$1.00
411800	ROME CITY SD	1,025,084	$1,403,147	$1.37
411902	WATERVILLE CSD	210,002	$237,667	$1.13
412000	SHERRILL CITY SD	445,047	$425,804	$0.96
412201	HOLLAND PATENT CSD	300,873	$355,229	$1.18
412300	UTICA CITY SD	1,515,420	$1,317,595	$0.87
412801	WESTMORELAND CSD	175,159	$169,245	$0.97
412901	ORISKANY CSD	139,449	$163,530	$1.17
412902	WHITESBORO CSD	556,944	$655,418	$1.18
	ONEIDA COUNTY	6,399,459	$6,568,264	$1.03
420101	WEST GENESEE CSD	954,515	$1,094,463	$1.15
420303	NORTH SYRACUSE CSD	1,182,135	$1,845,467	$1.56
420401	EAST SYRACUSE-MINOA CSD	650,321	$1,091,152	$1.68
420411	JAMESVILLE-DEWITT CSD	481,564	$453,775	$0.94

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
420501	JORDAN-ELBRIDGE CSD	239,724	$246,742	$1.03
420601	FABIUS-POMPEY CSD	143,422	$227,268	$1.58
420701	WESTHILL CSD	341,064	$280,885	$0.82
420702	SOLVAY UFSD	332,173	$166,932	$0.50
420807	LA FAYETTE CSD	213,174	$195,397	$0.92
420901	BALDWINSVILLE CSD	719,682	$842,637	$1.17
421001	FAYETTEVILLE-MANLIUS CSD	665,970	$761,179	$1.14
421101	MARCELLUS CSD	326,731	$294,791	$0.90
421201	ONONDAGA CSD	188,112	$265,740	$1.41
421501	LIVERPOOL CSD	1,439,251	$1,815,896	$1.26
421504	LYNCOURT UFSD	69,698	$64,341	$0.92
421601	SKANEATELES CSD	315,869	$175,921	$0.56
421800	SYRACUSE CITY SD	4,178,094	$5,052,275	$1.21
421902	TULLY CSD	214,617	$199,378	$0.93
	ONONDAGA COUNTY	12,656,116	$15,074,239	$1.19
430300	CANANDAIGUA CITY SD	629,088	$691,434	$1.10
430501	EAST BLOOMFIELD CSD	222,751	$191,010	$0.86
430700	GENEVA CITY SD	446,031	$456,808	$1.02
430901	GORHAM-MIDDLESEX CSD	308,578	$304,529	$0.99
431101	MANCHESTER-SHORTSVILLE CSD	151,394	$145,174	$0.96
431201	NAPLES CSD	197,082	$156,209	$0.79
431301	PHELPS-CLIFTON SPRINGS CSD	412,893	$354,609	$0.86
431401	HONEOYE CSD	152,458	$139,975	$0.92
431701	VICTOR CSD	490,750	$580,242	$1.18
	ONTARIO COUNTY	3,011,025	$3,019,990	$1.00
440102	WASHINGTONVILLE CSD	539,044	$619,199	$1.15
440201	CHESTER UFSD	160,435	$221,880	$1.38
440202	SUGAR LOAF UFSD	25,900	$7,076	$0.27
440301	CORNWALL CSD	241,692	$200,741	$0.83

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FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
440401	PINE BUSH CSD	664,531	$713,027	$1.07
440601	GOSHEN CSD	478,775	$489,491	$1.02
440901	HIGHLAND FALLS CSD	231,492	$274,039	$1.18
441000	MIDDLETOWN CITY SD	770,132	$970,340	$1.26
441101	MINISINK VALLEY CSD	487,204	$599,099	$1.23
441201	MONROE-WOODBURY CSD	758,744	$984,410	$1.30
441202	KIRYAS JOEL VILLAGE UFSD	18,650	$13,789	$0.74
441301	VALLEY CSD (MONTGOMERY)	483,468	$573,564	$1.19
441600	NEWBURGH CITY SD	1,637,932	$1,494,392	$0.91
441800	PORT JERVIS CITY SD	384,015	$403,422	$1.05
441903	TUXEDO UFSD	75,193	$92,884	$1.24
442101	WARWICK VALLEY CSD	508,998	$542,111	$1.07
442111	GREENWOOD LAKE UFSD	96,844	$131,788	$1.36
442115	FLORIDA UFSD	90,590	$83,502	$0.92
	ORANGE COUNTY	7,653,639	$8,414,754	$1.10
450101	ALBION CSD	354,907	$338,713	$0.95
450607	KENDALL CSD	177,828	$128,244	$0.72
450704	HOLLEY CSD	206,880	$163,690	$0.79
450801	MEDINA CSD	447,704	$442,205	$0.99
451001	LYNDONVILLE CSD	126,835	$130,160	$1.03
	ORLEANS COUNTY	1,314,154	$1,203,012	$0.92
460102	ALTMAR PARISH-WILLIAMSTOWN CSD	305,070	$438,896	$1.44
460500	FULTON CITY SD	732,143	$960,213	$1.31
460701	HANNIBAL CSD	246,273	$213,327	$0.87
460801	CENTRAL SQUARE CSD	745,972	$1,070,152	$1.43
460901	MEXICO CSD	463,330	$515,572	$1.11
461300	OSWEGO CITY SD	849,293	$1,450,747	$1.71
461801	PULASKI CSD	219,559	$268,072	$1.22
461901	SANDY CREEK CSD	156,087	$178,441	$1.14

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School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
462001	PHOENIX CSD	422,256	$394,639	$0.93
	OSWEGO COUNTY	4,139,983	$5,490,059	$1.33
470202	GILBERTSVILLE-MOUNT UPTON CSD	120,057	$109,911	$0.92
470501	EDMESTON CSD	78,659	$65,580	$0.83
470801	LAURENS CSD	83,791	$75,327	$0.90
470901	SCHENEVUS CSD	98,131	$60,097	$0.61
471101	MILFORD CSD	86,984	$78,603	$0.90
471201	MORRIS CSD	89,343	$52,602	$0.59
471400	ONEONTA CITY SD	393,992	$346,282	$0.88
471601	OTEGO-UNADILLA CSD	230,674	$156,194	$0.68
471701	COOPERSTOWN CSD	194,446	$152,871	$0.79
472001	RICHFIELD SPRINGS CSD	104,787	$92,368	$0.88
472202	CHERRY VALLEY-SPRINGFIELD CSD	118,200	$108,353	$0.92
472506	WORCESTER CSD	81,190	$48,154	$0.59
	OTSEGO COUNTY	1,680,254	$1,346,342	$0.80
480101	MAHOPAC CSD	586,498	$796,183	$1.36
480102	CARMEL CSD	577,391	$511,113	$0.89
480401	HALDANE CSD	101,670	$80,567	$0.79
480404	GARRISON UFSD	33,363	$29,375	$0.88
480503	PUTNAM VALLEY CSD	133,520	$292,864	$2.19
480601	BREWSTER CSD	356,495	$419,362	$1.18
	PUTNAM COUNTY	1,788,937	$2,129,464	$1.19
490101	BERLIN CSD	176,615	$203,268	$1.15
490201	BRUNSWICK COMN SD	24,983	$37,889	$1.52
490202	BRUNSWICK CSD (BRITTONKILL)	241,566	$292,901	$1.21
490301	EAST GREENBUSH CSD	687,364	$1,035,419	$1.51
490501	HOOSICK FALLS CSD	196,051	$151,911	$0.77
490601	LANSINGBURGH CSD	397,060	$373,617	$0.94

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490801	NORTH GREENBUSH COMN SD (WILLIAMS)	970	$1,542	$1.59
490804	WYNANTSKILL UFSD	97,587	$102,011	$1.05
491200	RENSSELAER CITY SD	200,952	$314,805	$1.57
491301	AVERILL PARK CSD	362,061	$314,478	$0.87
491401	HOOSIC VALLEY CSD	145,318	$157,058	$1.08
491501	SCHODACK CSD	209,370	$177,605	$0.85
491700	TROY CITY SD	810,015	$1,037,423	$1.28
	RENSSELAER COUNTY	3,549,912	$4,199,927	$1.18
500101	CLARKSTOWN CSD	1,364,654	$1,403,056	$1.03
500108	NANUET UFSD	367,128	$377,492	$1.03
500201	HAVERSTRAW-STONY POINT CSD	877,110	$1,066,067	$1.22
500301	SOUTH ORANGETOWN CSD	543,385	$563,874	$1.04
500304	NYACK UFSD	645,603	$473,648	$0.73
500308	PEARL RIVER UFSD	384,646	$403,750	$1.05
500401	RAMAPO CSD (SUFFERN)	700,334	$843,411	$1.20
500402	EAST RAMAPO CSD (SPRING VALLEY)	1,423,414	$1,973,270	$1.39
500414	EDWIN GOULD ACADEMY-RAMAPO UFSD	84,709	$263,294	$3.11
	ROCKLAND COUNTY	6,390,983	$7,367,862	$1.15
510101	BRASHER FALLS CSD	267,562	$149,397	$0.56
510201	CANTON CSD	259,997	$263,302	$1.01
510401	CLIFTON-FINE CSD	121,015	$146,181	$1.21
510501	COLTON-PIERREPONT CSD	137,455	$84,310	$0.61
511101	GOUVERNEUR CSD	231,464	$320,862	$1.39
511201	HAMMOND CSD	61,892	$48,220	$0.78
511301	HERMON-DEKALB CSD	102,296	$90,805	$0.89
511602	LISBON CSD	120,797	$80,704	$0.67
511901	MADRID-WADDINGTON CSD	223,050	$158,400	$0.71
512001	MASSENA CSD	507,898	$292,779	$0.58

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
512101	MORRISTOWN CSD	61,080	$74,068	$1.21
512201	NORWOOD-NORFOLK CSD	221,472	$163,601	$0.74
512300	OGDENSBURG CITY SD	567,057	$532,989	$0.94
512404	HEUVELTON CSD	131,959	$133,907	$1.01
512501	PARISHVILLE-HOPKINTON CSD	98,579	$97,546	$0.99
512902	POTSDAM CSD	302,921	$80,696	$0.27
513102	EDWARDS-KNOX CSD	154,000	$125,808	$0.82
	ST. LAWRENCE COUNTY	3,570,494	$2,843,575	$0.80
520101	BURNT HILLS-BALLSTON LAKE CSD	605,885	$624,288	$1.03
520302	SHENENDEHOWA CSD	1,049,500	$1,740,806	$1.66
520401	CORINTH CSD	131,238	$180,443	$1.37
520601	EDINBURG COMN SD	34,756	$25,267	$0.73
520701	GALWAY CSD	182,003	$186,405	$1.02
521200	MECHANICVILLE CITY SD	362,857	$223,640	$0.62
521301	BALLSTON SPA CSD	474,271	$634,432	$1.34
521401	SOUTH GLENS FALLS CSD	395,118	$413,234	$1.05
521701	SCHUYLERVILLE CSD	257,696	$175,254	$0.68
521800	SARATOGA SPRINGS CITY SD	953,446	$1,318,563	$1.38
522001	STILLWATER CSD	162,935	$138,302	$0.85
522101	WATERFORD-HALFMOON UFSD	235,763	$178,455	$0.76
	SARATOGA COUNTY	4,845,468	$5,839,089	$1.21
530101	DUANESBURG CSD	107,209	$80,953	$0.76
530202	SCOTIA-GLENVILLE CSD	632,609	$525,507	$0.83
530301	NISKAYUNA CSD	694,323	$882,722	$1.27
530501	SCHALMONT CSD	421,869	$331,090	$0.78
530515	ROTTERDAM-MOHONASEN CSD	412,129	$549,727	$1.33
530600	SCHENECTADY CITY SD	1,621,672	$1,627,512	$1.00
	SCHENECTADY COUNTY	3,889,811	$3,997,511	$1.03

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
540801	GILBOA-CONESVILLE CSD	55,257	$59,317	$1.07
540901	JEFFERSON CSD	46,325	$59,693	$1.29
541001	MIDDLEBURGH CSD	147,427	$323,248	$2.19
541102	COBLESKILL-RICHMONDVILLE CSD	376,579	$276,218	$0.73
541201	SCHOHARIE CSD	175,090	$172,143	$0.98
541401	SHARON SPRINGS CSD	57,565	$51,349	$0.89
	SCHOHARIE COUNTY	858,243	$941,968	$1.10
550101	ODESSA-MONTOUR CSD	186,804	$219,447	$1.17
550301	WATKINS GLEN CSD	355,293	$267,010	$0.75
	SCHUYLER COUNTY	542,097	$486,457	$0.90
560501	SOUTH SENECA CSD	237,290	$222,465	$0.94
560603	ROMULUS CSD	88,230	$101,671	$1.15
560701	SENECA FALLS CSD	186,153	$269,311	$1.45
561006	WATERLOO CSD	329,362	$379,725	$1.15
	SENECA COUNTY	841,035	$973,172	$1.16
570101	ADDISON CSD	238,029	$228,881	$0.96
570201	AVOCA CSD	110,315	$120,164	$1.09
570302	BATH CSD	349,231	$224,633	$0.64
570401	BRADFORD CSD	75,574	$95,060	$1.26
570603	CAMPBELL-SAVONA CSD	228,801	$266,735	$1.17
570701	CANISTEO CSD	150,044	$129,055	$0.86
571000	CORNING CITY SD	1,000,455	$1,080,367	$1.08
571501	GREENWOOD CSD	46,023	$63,525	$1.38
571800	HORNELL CITY SD	442,829	$554,289	$1.25
571901	ARKPORT CSD	113,209	$54,301	$0.48
572301	PRATTSBURGH CSD	247,667	$136,442	$0.55
572702	JASPER-TROUPSBURG CSD	139,792	$118,870	$0.85
572901	HAMMONDSPORT CSD	125,390	$135,597	$1.08

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
573002	WAYLAND-COHOCTON CSD	261,808	$258,395	$0.99
	STEUBEN COUNTY	3,529,167	$3,466,314	$0.98
580101	BABYLON UFSD	313,652	$324,030	$1.03
580102	WEST BABYLON UFSD	807,354	$463,632	$0.57
580103	NORTH BABYLON UFSD	845,870	$831,326	$0.98
580104	LINDENHURST UFSD	942,530	$952,218	$1.01
580105	COPIAGUE UFSD	619,696	$575,478	$0.93
580106	AMITYVILLE UFSD	716,080	$497,773	$0.70
580107	DEER PARK UFSD	811,280	$626,182	$0.77
580109	WYANDANCH UFSD	290,939	$344,391	$1.18
580201	THREE VILLAGE CSD	1,235,536	$1,330,307	$1.08
580203	BROOKHAVEN-COMSEWOGUE UFSD	1,387,043	$558,075	$0.40
580205	SACHEM CSD	1,583,830	$1,996,782	$1.26
580206	PORT JEFFERSON UFSD	318,301	$339,924	$1.07
580207	MT SINAI UFSD	335,235	$343,651	$1.03
580208	MILLER PLACE UFSD	288,172	$361,588	$1.25
580209	ROCKY POINT UFSD	353,343	$357,564	$1.01
580211	MIDDLE COUNTRY CSD	2,221,329	$1,654,835	$0.75
580212	LONGWOOD CSD	964,223	$1,525,560	$1.58
580221	SOUTH MANOR UFSD	105,205	$174,994	$1.66
580224	PATCHOGUE-MEDFORD UFSD	1,223,804	$1,044,466	$0.85
580232	WILLIAM FLOYD UFSD	820,281	$1,552,871	$1.89
580233	CTR MORICHES UFSD	781,685	$215,018	$0.28
580234	EAST MORICHES UFSD	70,188	$92,325	$1.32
580235	SOUTH COUNTRY CSD	1,558,841	$769,605	$0.49
580301	EAST HAMPTON UFSD	312,251	$346,668	$1.11
580302	WAINSCOTT COMN SD	1,920	$3,227	$1.68
580303	AMAGANSETT UFSD	96,260	$22,066	$0.23
580304	SPRINGS UFSD	55,840	$57,279	$1.03
580305	SAG HARBOR UFSD	142,719	$123,993	$0.87

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
580306	MONTAUK UFSD	44,083	$41,371	$0.94
580401	ELWOOD UFSD	478,127	$428,508	$0.90
580402	COLD SPRING HARBOR CSD	306,584	$275,085	$0.90
580403	HUNTINGTON UFSD	713,430	$732,902	$1.03
580404	NORTHPORT-EAST NORTHPORT UFSD	871,169	$871,219	$1.00
580405	HALF HOLLOW HILLS CSD	1,911,831	$1,444,595	$0.76
580406	HARBORFIELDS CSD	502,299	$453,854	$0.90
580410	COMMACK UFSD	1,283,820	$1,248,718	$0.97
580413	SOUTH HUNTINGTON UFSD	1,041,549	$913,273	$0.88
580501	BAY SHORE UFSD	784,995	$603,004	$0.77
580502	ISLIP UFSD	560,758	$512,463	$0.91
580503	EAST ISLIP UFSD	705,732	$702,466	$1.00
580504	SAYVILLE UFSD	742,245	$611,330	$0.82
580505	BAYPORT-BLUE POINT UFSD	441,856	$408,584	$0.92
580506	HAUPPAUGE UFSD	706,672	$897,543	$1.27
580507	CONNETQUOT CSD	1,001,882	$984,643	$0.98
580509	WEST ISLIP UFSD	550,181	$891,146	$1.62
580512	BRENTWOOD UFSD	1,831,000	$1,725,233	$0.94
580513	CENTRAL ISLIP UFSD	854,138	$817,289	$0.96
580514	FIRE ISLAND UFSD	15,322	$39,318	$2.57
580601	SHOREHAM-WADING RIVER CSD	483,624	$846,802	$1.75
580602	RIVERHEAD CSD	589,647	$725,027	$1.23
580603	LITTLE FLOWER UFSD	38,511	$36,894	$0.96
580701	SHELTER ISLAND UFSD	72,260	$67,129	$0.93
580801	SMITHTOWN CSD	1,637,953	$1,396,848	$0.85
580805	KINGS PARK CSD	621,960	$747,379	$1.20
580901	REMSENBURG-SPEONK UFSD	27,988	$35,368	$1.26
580902	WESTHAMPTON BEACH UFSD	223,726	$265,724	$1.19
580903	QUOGUE UFSD	22,460	$20,222	$0.90
580905	HAMPTON BAYS UFSD	124,800	$196,831	$1.58
580906	SOUTHAMPTON UFSD	339,597	$660,295	$1.94

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
580909	BRIDGEHAMPTON UFSD	40,430	$76,093	$1.88
580910	SAGAPONACK COMN SD	2,130	$2,455	$1.15
580911	EASTPORT UFSD	91,637	$115,284	$1.26
580913	TUCKAHOE COMN SD	32,306	$85,435	$2.64
580917	EAST QUOGUE UFSD	32,379	$50,593	$1.56
581002	OYSTERPONDS UFSD	21,743	$19,983	$0.92
581004	FISHERS ISLAND UFSD	47,670	$22,098	$0.46
581005	SOUTHOLD UFSD	119,200	$123,161	$1.03
581009	MATTITUCK-CUTCHOGUE UFSD	175,697	$184,158	$1.05
581010	GREENPORT UFSD	127,510	$68,039	$0.53
581011	LAUREL COMN SD	9,884	$35,049	$3.55
581015	NEW SUFFOLK COMN SD	7,100	$4,140	$0.58
	SUFFOLK COUNTY	39,441,292	$37,873,379	$0.96
590201	JEFFERSONVILLE-YOUNGSVILLE CSD	195,845	$90,760	$0.46
590401	DELAWARE VALLEY CSD	110,192	$70,460	$0.64
590501	FALLSBURG CSD	165,126	$353,996	$2.14
590801	ELDRED CSD	88,184	$70,018	$0.79
590901	LIBERTY CSD	341,500	$295,751	$0.87
591201	TRI-VALLEY CSD	136,906	$129,288	$0.94
591301	ROSCOE CSD	49,767	$117,409	$2.36
591302	LIVINGSTON MANOR CSD	100,383	$121,074	$1.21
591401	MONTICELLO CSD	443,469	$416,895	$0.94
591501	NARROWSBURG CSD	30,000	$41,210	$1.37
	SULLIVAN COUNTY	1,661,372	$1,706,861	$1.03
600101	WAVERLY CSD	338,965	$139,619	$0.41
600301	CANDOR CSD	158,570	$129,002	$0.81
600402	NEWARK VALLEY CSD	285,392	$231,817	$0.81
600601	OWEGO-APALACHIN CSD	427,006	$505,807	$1.18
600801	SPENCER-VAN ETTEN CSD	1,104,643	$283,633	$0.26

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
600903	TIOGA CSD	284,901	$262,590	$0.92
	TIOGA COUNTY	2,599,477	$1,552,468	$0.60
610301	DRYDEN CSD	267,118	$343,488	$1.29
610327	GEORGE JUNIOR REPUBLIC UFSD	112,284	$181,912	$1.62
610501	GROTON CSD	228,896	$120,226	$0.53
610600	ITHACA CITY SD	948,351	$1,173,420	$1.24
610801	LANSING CSD	220,552	$295,492	$1.34
610901	NEWFIELD CSD	198,468	$213,791	$1.08
611001	TRUMANSBURG CSD	254,828	$235,921	$0.93
	TOMPKINS COUNTY	2,230,497	$2,564,250	$1.15
620202	WEST PARK UFSD	30,658	$27,451	$0.90
620600	KINGSTON CITY SD	1,354,710	$1,025,802	$0.76
620803	HIGHLAND CSD	235,470	$181,371	$0.77
620901	RONDOUT VALLEY CSD	399,479	$337,691	$0.85
621001	MARLBORO CSD	343,891	$295,606	$0.86
621101	NEW PALTZ CSD	441,537	$278,216	$0.63
621201	ONTEORA CSD	334,477	$296,093	$0.89
621601	SAUGERTIES CSD	413,886	$338,504	$0.82
621801	WALLKILL CSD	377,469	$366,241	$0.97
622002	ELLENVILLE CSD	216,209	$179,151	$0.83
	ULSTER COUNTY	4,147,786	$3,326,126	$0.80
630101	BOLTON CSD	51,310	$51,303	$1.00
630202	NORTH WARREN CSD	104,075	$170,832	$1.64
630300	GLENS FALLS CITY SD	390,173	$449,879	$1.15
630601	JOHNSBURG CSD	97,556	$72,760	$0.75
630701	LAKE GEORGE CSD	178,730	$262,450	$1.47
630801	HADLEY-LUZERNE CSD	157,711	$282,741	$1.79
630902	QUEENSBURY UFSD	428,334	$559,964	$1.31

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
630918	GLENS FALLS COMN SD	21,170	$25,557	$1.21
631201	WARRENSBURG CSD	226,424	$192,289	$0.85
	WARREN COUNTY	1,655,483	$2,067,775	$1.25
640101	ARGYLE CSD	102,339	$72,884	$0.71
640502	FORT ANN CSD	129,220	$102,184	$0.79
640601	FORT EDWARD UFSD	107,019	$127,550	$1.19
640701	GRANVILLE CSD	232,817	$181,061	$0.78
640801	GREENWICH CSD	173,309	$151,110	$0.87
641001	HARTFORD CSD	88,944	$143,361	$1.61
641301	HUDSON FALLS CSD	369,138	$438,006	$1.19
641401	PUTNAM CSD	13,998	$17,244	$1.23
641501	SALEM CSD	209,817	$96,112	$0.46
641610	CAMBRIDGE CSD	158,387	$141,820	$0.90
641701	WHITEHALL CSD	152,721	$177,882	$1.16
	WASHINGTON COUNTY	1,737,709	$1,649,214	$0.95
650101	NEWARK CSD	431,036	$357,585	$0.83
650301	CLYDE-SAVANNAH CSD	246,958	$211,868	$0.86
650501	LYONS CSD	205,945	$138,523	$0.67
650701	MARION CSD	218,012	$313,170	$1.44
650801	WAYNE CSD	472,668	$464,491	$0.98
650901	PALMYRA-MACEDON CSD	455,790	$524,589	$1.15
650902	GANANDA CSD	185,385	$173,081	$0.93
651201	SODUS CSD	202,515	$246,151	$1.22
651402	WILLIAMSON CSD	279,854	$298,182	$1.07
651501	NORTH ROSE-WOLCOTT CSD	317,979	$356,003	$1.12
651503	RED CREEK CSD	212,783	$223,965	$1.05
	WAYNE COUNTY	3,228,925	$3,307,608	$1.02
660101	KATONAH-LEWISBORO UFSD	404,457	$327,748	$0.81

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FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
660102	BEDFORD CSD	747,922	$633,232	$0.85
660202	CROTON-HARMON UFSD	249,576	$178,000	$0.71
660203	HENDRICK HUDSON CSD	570,857	$312,203	$0.55
660301	EASTCHESTER UFSD	353,900	$367,303	$1.04
660302	TUCKAHOE UFSD	128,006	$220,931	$1.73
660303	BRONXVILLE UFSD	196,875	$224,799	$1.14
660401	UFSD - TARRYTOWNS	507,610	$346,361	$0.68
660402	IRVINGTON UFSD	172,029	$202,234	$1.18
660403	DOBBS FERRY UFSD	228,174	$239,762	$1.05
660404	HASTINGS-ON-HUDSON UFSD	264,000	$251,485	$0.95
660405	ARDSLEY UFSD	425,194	$303,306	$0.71
660406	EDGEMONT UFSD	287,780	$254,211	$0.88
660407	GREENBURGH CSD	359,864	$356,503	$0.99
660409	ELMSFORD UFSD	172,890	$150,320	$0.87
660410	GREENBURGH-GRAHAM UFSD	37,069	$173,265	$4.67
660411	GREENBURGH ELEVEN UFSD	83,975	$181,425	$2.16
660412	GREENBURGH-NORTH CASTLE UFSD	38,600	$151,789	$3.93
660413	ABBOTT UFSD	20,984	$73,714	$3.51
660501	HARRISON CSD	522,474	$681,008	$1.30
660701	MAMARONECK UFSD	1,105,240	$1,084,249	$0.98
660801	MT PLEASANT CSD	301,980	$318,998	$1.06
660802	POCANTICO HILLS CSD	108,400	$111,678	$1.03
660803	HAWTHORNE-CEDAR KNOLLS UFSD	45,199	$42,457	$0.94
660804	MT PLEASANT-COTTAGE UFSD	117,018	$157,085	$1.34
660805	VALHALLA UFSD	173,202	$210,901	$1.22
660806	MT PLEASANT-BLYTHEDALE UFSD	15,068	$64,008	$4.25
660809	PLEASANTVILLE UFSD	201,569	$205,323	$1.02
660900	MT VERNON CITY SD	1,393,429	$1,517,473	$1.09
661004	CHAPPAQUA CSD	844,682	$671,388	$0.79
661100	NEW ROCHELLE CITY SD	1,909,027	$1,677,331	$0.88
661201	BYRAM HILLS CSD	373,261	$351,868	$0.94

SUMMARY OF DISTRICT ENERGY COSTS PER SQUARE FOOT
FOR THE 1993-1994 SCHOOL YEAR (SEE FOOTNOTES TO EXHIBIT B)

School District Code	School District Name	Square Footage	Energy Cost (See Footnote 2)	Cost Per Square Foot
661301	NORTH SALEM CSD	182,002	$250,220	$1.37
661401	OSSINING UFSD	524,124	$649,787	$1.24
661402	BRIARCLIFF MANOR UFSD	242,341	$350,645	$1.45
661500	PEEKSKILL CITY SD	443,432	$521,926	$1.18
661601	PELHAM UFSD	391,265	$354,496	$0.91
661800	RYE CITY SD	354,191	$341,756	$0.96
661901	RYE NECK UFSD	196,200	$247,263	$1.26
661904	PORT CHESTER-RYE UFSD	462,435	$415,269	$0.90
661905	BLIND BROOK-RYE UFSD	187,006	$208,131	$1.11
662001	SCARSDALE UFSD	675,000	$792,070	$1.17
662101	SOMERS CSD	336,595	$432,535	$1.29
662200	WHITE PLAINS CITY SD	1,281,029	$1,343,237	$1.05
662300	YONKERS CITY SD	3,358,534	$3,727,341	$1.11
662401	LAKELAND CSD	892,328	$1,008,048	$1.13
662402	YORKTOWN CSD	556,354	$461,802	$0.83
	WESTCHESTER COUNTY	22,443,147	$23,146,884	$1.03
670201	ATTICA CSD	335,498	$283,046	$0.84
670401	LETCHWORTH CSD	207,666	$205,105	$0.99
671002	WYOMING CSD	53,202	$39,118	$0.74
671201	PERRY CSD	242,591	$195,733	$0.81
671501	WARSAW CSD	178,955	$177,466	$0.99
	WYOMING COUNTY	1,017,912	$900,468	$0.88
680601	PENN YAN CSD	339,304	$186,579	$0.55
680801	DUNDEE CSD	179,004	$199,408	$1.11
	YATES COUNTY	518,308	$385,987	$0.74
	STATEWIDE	395,092,161	$393,595,241	$1.00

Factors That Impact Energy Consumption

It should be noted that cost per square foot is not a clear measurement of school district performance in managing energy consumption. However, it can be used by SED and school management to identify potential areas for further review. There are many factors that impact energy consumption as follows:

Type of lighting
Type of fuel used for heating
Cost of fuel
Severity of the weather
Geographic location
Type of construction
Ceiling height
The length of time buildings are occupied
Type of insulation
Efficiency of windows
Age of buildings
Energy Conservation Procedures and Practices

While some of these factors are controllable (i.e. type of lighting), some are not (i.e., severity of weather) or may be too costly to change (i.e., age of buildings).

We found significant variances between school year 1993-94 district energy cost and building square footage data provided to the Department by the districts, and the supporting documentation provided to us by the school districts. We used various audit techniques to confirm the accuracy of the data provided to the Department for the school year 1993-94. We obtained information from 454 school districts either by letter, by phone or during our site visits. For 27 percent (124) of the districts, the Department's data for energy costs was not accurate, and the average variance was $91,733. For 26 percent (119) of the districts the Department's building square footage data was not accurate and the average variance was 152,622 square feet. These variances resulted in the cost per square foot changing for 41.9 percent (190) of the districts. The average change was $0.45 per square foot.

Exhibit B Footnote 1

Reported energy costs include only coal, electric, natural gas and oil unit costs. It does not include district equipment, operating and maintenance expenses. For example, reported energy costs do not include coal storage costs or personal service expenses to stoke coal furnances.

Exhibit B Footnote 2

The New York State Energy Office's 1990 Energy Conservation Suggestions

Energy Surveys

Obtaining a detailed energy survey is the most important first step in achieving improved energy efficiency. These detailed studies assess existing energy use and make specific recommendations for cost-effective energy efficiency measures in a facility.

Lighting Systems

Lighting efficiency improvements will reduce electric costs, reduce the need for and cost of air conditioning, and in many cases improve the visual environment for building users.

Low or No Cost with Immediate Payback - clean lighting fixtures and lenses, and reduce lighting energy needs by delamping selected lamps from the fixtures.

Quick Payback (2 years or less) - install reduced wattage lamps or more efficient lamps such as compact fluorescent. Upgrading the lighting system to a more efficient design, such as converting an incandescent system to a fluorescent or high intensity discharge (HID) system offers attractive payback.

Cost-effective Measures with Longer Payback - install electronic ballasts, and light sensors to maximize individual control over lighting usage or to take advantage of available daylight.

Heating, ventilating and air-conditioning systems (HVAC)

HVAC improvements will reduce consumption of fossil fuels such as oil, will prolong equipment life, increase control over operation of the building and increase worker or tenant comfort.

Low or No Cost - tune and clean all heating, ventilating and air-conditioning systems (HVAC); install night set-back time clocks, and heat timers on boiler systems.

Quick Payback - replace inefficient or non-working equipment (burners, boilers, chillers, furnaces, air conditioners) with newer high-efficiency equipment. Variable speed electric motor controllers can increase the operating efficiency of existing motors. Boiler system improvements, such as maintaining steam trap efficiency, and installing pipe, fitting and duct insulation are very cost-effective.

Longer Payback - consider Energy Management Systems that automatically control the operation of building heating and cooling systems and waste heat recovery systems.

Exhibit C

Building Envelope

Building envelope improvements will reduce heating or cooling needs of the building, thereby reducing electric, oil or gas needs, improve the appearance and value, and increase tenant comfort.

Low or No Cost - assure that all windows and doors are maintained, including repair of broken or cracked sections and proper caulking and weatherstripping.

Quick Payback - upgrade or install insulation in walls and roofs, installing truck door gaskets or other measures to reduce infiltration at loading docks or other doorways are effective measures.

Longer Payback - consider upgrading by installing storm windows or energy efficient replacement windows, or building vestibules.

Domestic Hot Water

Reduced domestic hot water demands will save on oil, gas or electric costs.

Low or No Cost - installing flow restrictors or reducing the operating temperature of domestic hot water systems can achieve significant savings at very low cost.

Quick Payback - install summer boilers and/or separate hot water tanks, install and maintain tank and pipe insulation and replace inefficient hot water tanks with higher-efficiency units.

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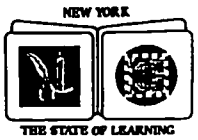

THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, N.Y. 12234

EXECUTIVE DEPUTY COMMISSIONER OF EDUCATION
THE NEW YORK STATE EDUCATION DEPARTMENT
ALBANY, NEW YORK 12234

December 10, 1996

Mr. David R. Hancox
Director of State Audits
Office of the State Comptroller
Division of Municipal Affairs - 10th Floor
A.E. Smith State Office Building
Albany, NY 12236

Dear Mr. Hancox:

My colleagues and I appreciate the opportunity to respond to recommendations resulting from the State Comptroller's Draft Audit Report (96-J-2) of the Education Department's Oversight of School District Energy Conservation Activities. Our comments relate to the recommendations contained in the report.

Recommendations:

1. Develop a strategic plan for conserving energy at school districts and BOCES throughout New York State. To the extent that resources are available provide energy conservation technical assistance and monitor school district energy efforts. Distribute, and seek compliance with, the energy conservation practices we recommend for school districts, as noted above. Incorporate in the plan goals for reducing energy costs within the next fiscal year and beyond.

   We agree with the recommendation. The Department will develop a strategic plan and set goals for reducing energy costs at school districts and BOCES in the next fiscal year and beyond. School district energy conservation efforts and compliance with energy conservation practices will be monitored and technical assistance will be provided to the extent that resources permit.

2. Provide guidance and leadership in developing energy performance indicators and standards, which the districts could use to determine how effective they are and to compare their performance to other districts.

   We agree with the recommendation. Staffing levels permitting, the Department will provide guidance and leadership in developing energy performance indicators and standards that can be used in comparisons.

3. Consider reinstituting the requirement that school districts provide annual energy costs by fuel source. Develop a school district energy cost per square foot performance measure using available energy costs and building square footage data. Implement controls to ensure the data is accurate and complete.

   We agree with the recommendation. The Department will reexamine the requirement that school districts provide annual energy costs. Staff permitting, we will develop and implement controls to ensure these data are accurate and complete and periodically report these statistics to districts via the School Executive's Bulletin, which is distributed to school districts and can be accessed via the EMSC homepage.

4. Propose legislation establishing a review and approval process for energy performance contracts. Resolve the other energy performance contract issues we raised in this report.

   We agree with the recommendation. The current review completed by the State Education Department is for conformance to the NYS Uniform Fire Prevention and Building Code and State Education Department Standards. A more detailed review of every aspect of an energy performance contract is not feasible with current resources. The Department will propose legislation to require a review process for the contracts being entered into by school districts and BOCES as a positive first step. The Office of Facilities Planning will establish a committee to resolve the issues relating to energy performance contracts raised in this report.

5. Establish and coordinate a process for sharing energy conserving experiences and approaches among school districts.

   We agree with the recommendation. The Department will establish and coordinate a process for school districts to share their experiences and approaches to energy conservation through the School Executive's Bulletin.

6. Provide districts with updated room temperature guidelines for school buildings.

   We agree with the recommendation. The Department will provide updated room temperature guidelines.

7. Consider instituting an award program and developing other incentives to encourage districts to implement energy saving measures.

   We agree with the recommendation. The Department may be able to establish a monetary award program. The Office of Facilities Planning will seek cooperation and assistance from other State agencies and educational associations.

8. Develop and distribute a list of energy related services available (e.g., NYS Energy Research and Development Authority's performance contract assistance) along with contact persons and phone numbers.

We agree with the recommendation. The Department will publish a list of energy related services, along with contact persons and telephone numbers, in the School Executive's Bulletin. This list will also be distributed to school districts when initiating a capital construction project or upon request.

9. Propose legislation to establish an educational energy revolving fund.

We agree with the recommendation. The Department will examine the concept with the assistance of other State agencies and educational associations.

Please contact me if any of these responses are unclear.

Sincerely,

Thomas E. Sheldon

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

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